

In re Patent Application of:

DeSALVO ET AL.

Serial No. **09/724,256**

Filing Date: **11/28/2000**

REMARKS

Claims 1-3, 5-13 and 15-31 remain in this application. Claims 4 and 14 have been cancelled. Claims 1, 5, 11 and 25 have been amended. Claims 3, 13, 25 and 31 have been previously amended.

Applicants thank the Examiner for the detailed study of the application and prior art.

At the outset, Applicants note that the present claimed invention is directed to a communications receiver with a clean current source and converts optical communications signals. It is an improvement over currently designed injection laser diode drivers used in such receivers that had previously used a linear pass transistor to deliver a regulated current to an injection laser diode, resulting in a constant voltage and current and dissipated power.

The present claimed invention delivers a clean current source for the injection laser diode to minimize power dissipation. It uses a current source control loop configuration that is set to a desired current through the injection laser diode.

Claim 1 has now been amended to include the recitation of the laser and laser driver for pumping the optical preamplifier, including an injection laser diode and current source control loop circuit operatively connected to the injection laser diode for establishing a fixed current. This is similar to the allowable subject matter of claim 5. The voltage switcher circuit is connected to the injection diode and current source control loop circuit. This switcher circuit was originally recited in claim 5, together with the injection laser diode and current source control loop circuit.

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One preferred circuit of the invention would include the voltage switcher circuit, but the clean current is delivered by the current source control loop circuit, which establishes a fixed current in association with the injection laser diode. The recitation of the voltage switcher circuit is not necessary for the allowability of claim 1.

As to the cited prior art, Applicants agree with the Examiner that the cited U.S. Patent No. 5,675,428 to Henmi does not disclose an amplifier circuit for amplifying the electrical communications signal. U.S. Patent No. 5,636,048 to Kogure used by the Examiner to reject claims 1, 3, 6, 9-11, 13, 16, 19 and 20 as obvious over Henmi in view of Kogure, teaches an amplifier circuit and does not disclose or suggest a laser driver for pumping any pre-optical preamplifier, including an injection laser diode and current source control loop circuit.

As to the other cited prior art, U.S. Patent No. 5,712,716 to Vanoli et al. discloses a multi-wavelength optical telecommunication system that uses a preamplifier, a multiplexer, a demultiplexer and a filter. The filter has some bandpass capability, but nowhere suggests the present claimed invention of the optical preamplifier, injection laser diode and the current source control loop circuit for establishing a fixed current.

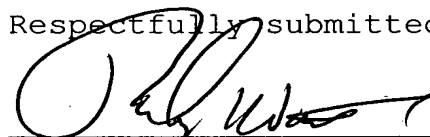
At most, the cited U.S. Patent No. 5,517,351 to Hatakeyama discloses a driving circuit for pumping a semiconductor laser 16 with an automatic gain control and level fixation circuit 14 and a detecting circuit 12, 13 that is operative with a timing extracting circuit 11. Hatakeyama nowhere discloses or suggests the use of a current source

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control loop circuit operative with an injection laser diode for pumping the laser and establishing a fixed current.

Applicants contend that the present case is in condition for allowance and respectfully requests that the Examiner issue a Notice of Allowance and Issue Fee Due. If the Examiner has any questions or suggestions for placing this case in condition for allowance, the undersigned attorney would appreciate a telephone call.

Respectfully submitted,



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